CLAIMS

What is claimed is:

1. A data optimization engine disposed inline with a first communication channel and a second communication channel, comprising:

a transmit interface circuit configured to receive a first data stream from said first communication channel and to obtain a first data file from said first data stream; and

an optimization processor coupled to said transmit interface circuit for receiving a second data file from said transmit interface circuit, said second data file representing said first data file after said first data file has been processed by said transmit interface circuit into a format suitable for optimization by said optimization processor, said optimization processor performs one of a compression and an encryption on said second data file, thereby obtaining an optimized data file.

2. The data optimization engine of claim 1 wherein said first data file is a Fiber Channel data frame.

3. The data optimization engine of claim 2 wherein said first data file is encoded using 10-bit encoding, said format suitable for optimization by said optimization processor is an 8-bit encoding protocol.

4. The data optimization engine of claim 1 further including a receive interface circuit coupled to said optimization processor, said receive interface circuit being configured to receive a second data stream from said second communication channel and to obtain a third data file from said second data stream, said third data file representing a data file previously optimized and requiring deoptimization, said receive interface circuit also being configured to send a fourth data file to said

optimization processor, said fourth data file representing said third data file after said third data file has been processed by said receive interface circuit into a format suitable for deoptimization by said optimization processor, said optimization processor performs one of a decompression and a decryption on said fourth data file, thereby obtaining a deoptimized data file.